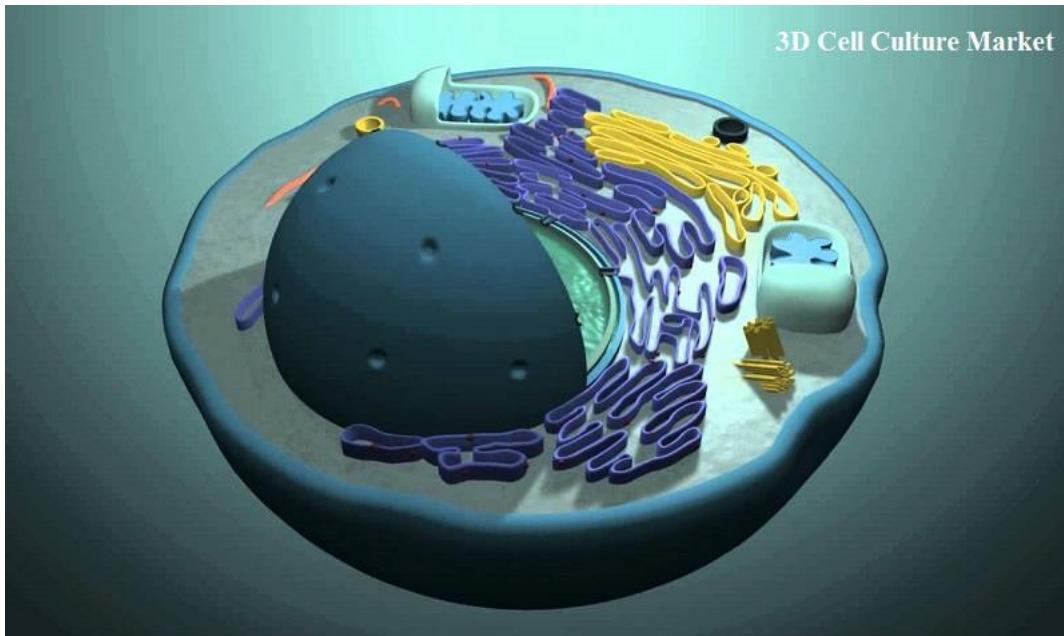


3D Cell Culture Market Size Estimation, Growth and Trends in Coming Years



Industry Overview

3D cell cultures are increasingly being used to bridge the gap between 2D cell cultures and *in vivo* animal models. Three-dimensional (3D) cell culture is an artificial environment in which the cells intermingle with the 3D surroundings. The global [3D cell culture market](#) is growing at a fast rate due to growing awareness, increasing focus on developing alternatives to animal testing and technological advancement, and new product launches. There are different kinds of products contributed to the 3D cell culture market size. The market has observed high demand for scaffold-based 3D over the last few years, due to its ability to mimic *in vivo* conditions.

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Market Segmentation

Insight by Product

Globally, the market has been classified by product into scaffold-based 3D cell culture, magnetic levitation, scaffold-free 3D cell culture, and 3D bioprinting and microfluidics-based 3D cell culture. The scaffold-based segment is estimated to account for the biggest share and is expected to grow at the fastest rate in the market due to the ability of scaffold-based products to imitate *in vivo* conditions, thus rising their adoption among end users; and innovation in spheroid development techniques.

The scaffold-based segment is further divided into micropatterned surfaces, hydrogels/ECM analogs, and solid scaffolds. The hydrogels/ECM analogs segment is estimated to account for the bigger share in the scaffold-based 3D cell culture market due to their large acceptance among researchers.

Insight by Application

The 3D cell culture market has been classified by the application into drug discovery and toxicology testing, tissue engineering and regenerative medicine, and cancer and stem cell research. Cancer and stem cell segment account for the largest share in the market due to the increasing prevalence of cancer and substantial funding initiatives for cancer research from government and private organizations.

Insight by End-User

The different types of end users for the 3D cell culture market are pharmaceutical and biotechnology companies and research institutes. The pharmaceutical and biotechnology companies among the largest end-users in the market due to increasing research and development spending in these companies, the presence of the huge number of pharmaceutical and biotechnology companies and increasing focus on alternative testing models instead of animal techniques and focus on providing next-level of treatment management options with the patients.

Industry Dynamics

Growth Drivers

Due to technological advancement and new product launches, growing awareness, availability of funding for research from government and private investors, increasing demand for effective and affordable treatment and increasing focus on developing alternatives to animal testing are the primary growth drivers for 3D cell culture market. Three-dimensional cell culture is largely used in drug discovery and tissue engineering, due to its ability to provide accurate data for the various in-vivo test.

Rising of microfluidics-based cell culture, advancements in the field of cell imaging & analytical systems, development for formulating personalized cosmetics, compliance of 3D cultures in detecting phenotypic changes, and regenerative medicine, focus on providing next-level of treatment management options to patients are also fueling the growth of the 3D cell culture market. However, the growing prevalence of cancer is also boosting the growth of the market. For example, according to the World Health Organization (WHO), in 2015 approximately 8.8 million people died due to cancer. However, approximately 70% of the deaths from cancer occur in low- and middle-income countries.

Challenges

Due to lack of infrastructure, high initial investment and lack of consistency in three-dimensional cell culture products are the major challenges for the growth of 3D cell culture market. Researchers face a major problem in inserting scaffold into microplate wells; this irregularity in the products reduces the reproducibility of results and thus dropping the efficiency of the research.

Industry Ecosystem

The main challenge for the new entrants is the survival in capital intensive and highly regulated 3D cell culture industry. Research laboratories, institutes, and biopharmaceutical and biotechnology companies are swiftly adopting three-dimensional cell culture in practice replacing 2D cell culture; this decreases the competition among manufacturers of 3D cell culture products as buyers are in large number in the market.

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Geographic Overview

Worldwide, North America is one of the largest 3D cell culture markets as the region is home to the largest pharmaceutical and biotechnology industry players. Few more other factors leading to the growth of the North American market are increasing the prevalence of cancer, significant support from the government in the form of grants and funds, expanding biopharmaceutical industry, and convenience of technologically advanced products.

Asia-Pacific specifically countries like China, Japan, Korea, India are observed to witness the fastest growth in the market, as the region comprises of the largest population. In addition, the growing prevalence of cancer, the increasing number of research-related activities, expanding biotechnology and pharmaceutical industry, and growing medical tourism are also creating a positive impact on the [3D cell culture market growth](#) in the region.

Competitive Insight

Key players in the industry are investing in the development of innovative and advanced products, which is strengthening their position in the market. In November 2012, Corning Incorporated acquired a majority of the Discovery Labware business from Becton, Dickinson, and Company to expand its presence in the laboratory consumables market. Thermo Fisher Scientific Inc., Corning Incorporated, Merck & Co., Inc., Lonza Group, Reprocell, 3D Bitek, Emulate, Global Cell Solutions, Hamilton and Insphero are some of the key players offering 3D cell culture products.

Source: [VynZ Research](#)